

## AMENDMENTS TO THE CLAIMS

Claims 1-30 (Canceled)

31. (New) A cartridge comprising:

- a) a first chamber comprising a surface comprising an array of capture ligands;
- b) a second chamber comprising an absorbent pad;
- c) at least one channel connecting said first and said second chambers; and
- d) a permeation layer material separating said first and said second chambers.

32. (New) A cartridge comprising:

- a) a first chamber comprising:
  - a. a surface comprising an array of capture ligands; and
  - b. at least a first electrophoresis electrode;
- b) a second chamber comprising at least a second electrophoresis electrode;
- c) at least one channel connecting said first and said second chambers; and
- d) a permeation layer separating said first and said second chambers.

33. (New) The cartridge of Claims 32 wherein said second chamber further comprises an absorbent pad.

34. (New) A cartridge of any of Claims 31-33 wherein said first chamber further comprises a self-assembled monolayer (SAM).

35. (New) A cartridge of Claim 34 wherein said SAM comprises insulators.

36. (New) A cartridge of Claim 34 wherein said SAM comprises a mixed monolayer.
37. (New) A cartridge of any of Claims 31-33 wherein said first surface is printed circuit board (PCB).
38. (New) A cartridge of Claim 37 wherein said PCB is fiberglass.
39. (New) A cartridge of Claim 37 wherein said PCB is GETEK™.
40. (New) A cartridge of any of Claims 31-33 wherein said capture ligand is attached to said surface via an attachment linker.
41. (New) A cartridge of Claim 40 wherein said attachment linker is an insulator.
42. (New) A cartridge of any of Claims 31-33 wherein said capture ligand is a protein.
43. (New) A cartridge of any of Claims 31-33 wherein said surface further comprises an array of detection electrodes.
44. (New) A cartridge of any of Claims 31-33 wherein said permeation layer material is a membrane.